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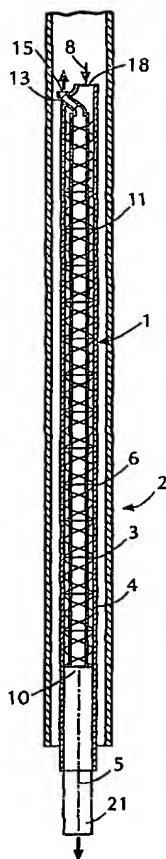
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(54) Title: **HYDROCYCLONE FOR DOWN-HOLE USE**



(57) Abstract: Hydrocyclone (1) for separating an input stream (8) of two immiscible liquids having a stream inlet (18) an inner shell (3) and an outer shell (4) concentric with the longitudinal axis (5) of the hydrocyclone (1), a cyclone chamber is defined by the shells (3,4), encircles the axis (5) and has an entrance (7), an expansion chamber (9) which reduces the velocity of the input stream (8) by the time it reaches the entrance (7) is between the stream inlet (18) and the entrance (7). The dimensions of the hydrocyclone are selected so that the hydrocyclone (1) has a radius not more than 30% greater than the radius of the outer shell (4) and lies within a circle in a plane perpendicular to and centered on the axis (5), therefore the hydrocyclone (1) can be readily lowered into a well casing (2) in the ground.